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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
07/699,479	05/13/1991	DAVID L. FOSNAUGH	30226	4049
7590	04/07/2004		EXAMINER	
Marshall,O'Toole, Gerstein, Murray & Borun 6300 Sears Tower 233 South Wacker Drive Chicago, IL 60606-6402			CHOI, STEPHEN	
			ART UNIT	PAPER NUMBER
			3724	

DATE MAILED: 04/07/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No.	Applicant(s)
	07/699,479	FOSNAUGH, DAVID L.
	Examiner	Art Unit
	Stephen Choi	3724

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on \_\_\_\_.
- 2a) This action is FINAL.      2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 2-4,6-11,13-31,47,48 and 52-56 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) Claim(s) \_\_\_\_ is/are allowed.
- 6) Claim(s) 2-4,6-11,13-31,47,48 and 52-56 is/are rejected.
- 7) Claim(s) \_\_\_\_ is/are objected to.
- 8) Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on \_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) All    b) Some \* c) None of:
  1. Certified copies of the priority documents have been received.
  2. Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

1) <input type="checkbox"/> Notice of References Cited (PTO-892)	4) <input type="checkbox"/> Interview Summary (PTO-413)
2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)	Paper No(s)/Mail Date: ____.
3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date <u>29,31,34,36,41</u> .	5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)
	6) <input type="checkbox"/> Other: ____.

### **DETAILED ACTION**

1. Prosecution on the merits of this application is reopened on claims 2-4, 6-11, 13-31, 47-48, and 52-56, as they are considered unpatentable for the reasons indicated below: A number of IDSes were filed after motions were over during the interference. Thus, the IDSes were placed in the application file, but the information referred to therein has not been previously considered as to the merits. Claims indicated allowable by the previous examiner and the awarded counts are unpatentable based on the reference to Wesstrom filed in Paper No. 41 and Wesstrom in view of applicant's admitted prior art. Hence, prosecution is hereby reopened and new grounds of rejection are set forth below.

#### ***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 3-4, 6-8, 10-11, 13-16, 18, 47-48, and 55-56 are rejected under 35 U.S.C. 102(b) as being anticipated by Wesstrom et al. (US 3,388,582).

Regarding claim 3, Wesstrom discloses all the recited elements of the invention including:

a) a series of adjacent die stations which receive a strip and which shape discs (58, col. 2, lines 55-67);

- b) the die including means for enabling changes in distances between geometric centers of adjacent discs (72, 74) while maintaining the geometric centers substantially on a center line of the strip (60);
- c) the means for enabling changes comprising slot cutting means for forming at least one laterally extending slot between adjacent discs while leaving at least two narrow deformable bridges connecting the adjacent discs (72, 74, 62, 64, 68, 70, 80, col. 2, lines 55-72);
- d) the bridges having a lateral width and thickness sufficient to enable deformation thereof to either increase or decrease the distance between the geometric centers of the adjacent discs (col. 2, lines 69-72);
- e) at least one additional die station following the slot cutting means for shaping the discs (col. 2, 64-65);
- f) the slot cutting means forming at least one of the bridges with portions which are disposed at an angle relative to the center line (Figure 6, 72,74).

Regarding claim 4, the bridges have the shape of a chevron (Figure 6).

Regarding claim 18, a plurality of straddle pilot means (60, 112, 114, col. 4, lines 71-73) are provided.

Regarding claims 6-8 and 10-11, Wesstrom discloses all the recited elements of the invention including:

- g) a scroll shape strip of relatively stiff material including a series of consecutive discs formed along the length (50);

- h) each of the discs including a center and the centers falling substantially on an imaginary center line of the strip (Figure 6);
- i) at least two adjacent discs having at least one laterally extending slot (at 62, 64, 80) forming at least two narrow deformable bridges connecting the adjacent discs (72, 74);
- j) the bridges having a lateral width and thickness sufficient to enable deformation to either increase or decrease the distance between the centers of the adjacent discs (col. 2, lines 68-70) while maintaining the centers substantially on the center line (60);
- k) at least one of the bridges including portions which are chevron-shaped (Figure 6).

Regarding claim 13, Wesstrom discloses all the recited steps of the invention including:

- l) simultaneously cutting and shaping a series of shaped discs at a plurality of stations including a slot cutting station and a plurality of intermediate stations (58) wherein the discs and the stations having centers and the stations and the strip having an imaginary center line and centers falling substantially on the center line (Figure 6);
- m) cutting at the slot cutting station at least one laterally extending slot through the strip between each pair of adjacent discs (62, 64, 68, 80) and at least two narrow deformable bridges connecting each pair of adjacent discs wherein one of the bridges being formed at each lateral end of the

slot, the slot and the bridges being serially laterally aligned transverse to the center line (72, 74, Figure 6);

n) orienting the discs at the intermediate stations while shaping the discs between the bridges at the intermediate stations and enabling adjustment of the distances between the pairs of adjacent discs at the intermediate stations to be adjusted by simultaneously deforming the bridges (col. 2, lines 68-70) while maintaining the centers of the disc substantially on the center line (60) when the distances between the centers of the discs differ from the distances between the centers of the stations (col. 2, line 70-71);

o) each of the discs having at least four outer sides (50) which is adjacent the slot cutting station, physically engaging the four outer sides of the disc with four straddle pilots (112, 114) thereby orienting the disc at the slot cutting station while cutting the at least one slot (col. 4, lines 71-73).

Regarding claim 16, two of the bridges are disposed at substantially equal distances on opposite sides of the center line (Figure 6).

Regarding claim 14, Wesstrom discloses all the recited steps of the invention including:

p) simultaneously cutting and shaping a series of shaped discs at a plurality of stations including a slot cutting station and a plurality of intermediate stations (58) wherein the discs and the stations having centers and the stations and the strip having an imaginary center line and centers falling substantially on the center line (Figure 6);

- q) cutting at the slot cutting station at least one slot through the strip between each pair of adjacent discs (62, 64, 68, 80) wherein the slot forming at least two narrow deformable bridges connecting each pair of adjacent discs (72, 74);
- r) orienting the discs at the intermediate stations while shaping the discs between the bridges at the intermediate stations and enabling adjustment of the distances between the pairs of adjacent discs at the intermediate stations by simultaneously deforming the bridges (col. 2, lines 68-70) while maintaining the centers of the disc substantially on the center line (60) when the distances between the centers of the discs differ from the distances between the centers of the stations wherein each of the two bridges having sides (col. 2, lines 70-71);
- s) forming the sides of at least one of the bridges at an angle relative to the center line (Figure 6).

Regarding claim 15, the bridges have the shape of a chevron (Figure 6).

Regarding claim 47, Wesstrom discloses all the recited elements of the invention including:

- t) a succession of adjacent stations located along an imaginary center line and a geometric centers being located substantially on the center line (58, Figure 6);
- u) the adjacent stations having center to center distances which are fixed and means for maintaining accurate progression of the discs through the

stations despite variations in the center-to-center distances of the adjacent discs (72, 74, col. 2, lines 68-72) while maintaining the geometric centers substantially on the center line (60);

v) the means for maintaining comprises slot punch means for cutting a plurality of slots to form a plurality of narrow bridges connecting the adjacent discs (72, 74, 62, 64, 68, 70, 80, col. 2, lines 55-72);

w) the bridges being sufficiently narrow to be deformable to correct for the variations (col. 2, lines 68-72);

x) pilot means at a station adjacent the slot punch means for engaging and accurately locating the disc while the slot punch means are cutting the slots (60, col. 4, lines 71-73).

Regarding claim 48, straddle pilots (112, 114).

Regarding claim 55, Wesstrom discloses all the recited elements of the invention including:

1) a die assembly having a longitudinal axis and a series of at least four successive die stations serially disposed along the longitudinal axis, center-to-center spacing along the longitudinal axis between centers of each pair of adjacent die stations being fixed and at least some of the die stations including punch means for shaping a series of interconnecting discs (58, col. 2, lines 64-65) wherein the center-to-center spacing between the geometric centers of adjacent discs in the strip being variable

from the fixed center-to-center spacing between the centers of each pair of the adjacent die stations (col. 2, lines 64-71);

2) means for maintaining accurate progression of the discs along the longitudinal axis through the die stations despite variations in the center-to-center spacing between the geometric centers wherein the maintaining means including means for enabling the center-to-center spacing along the longitudinal axis between the geometric centers of adjacent discs to be changed (col. 2, line 69);

3) the enabling means comprising slot punch means for forming both at least one elongate slot extending in a lateral direction transverse to the longitudinal axis (62, 64, 68. 80) and at least a pair of narrow deformable bridges spaced apart in the lateral direction by the elongate slot and disposed at the opposite lateral ends of the elongate slot (72, 74) wherein the bridges being sufficiently narrow in the lateral direction to be deformable to effect changing of the center-to-center spacing along the longitudinal axis between the geometric centers of the adjacent discs and the narrow deformable bridges and the at least one elongate slot being aligned in the lateral direction (col. 2, lines 68-72, Figure 6).

Regarding claim 56, Wesstrom discloses all the recited elements of the invention including:

4) a die assembly having a longitudinal axis and a series of successive die stations serially disposed along the longitudinal axis, center-to-center

spacing along the longitudinal axis between centers of each pair of adjacent die stations being fixed and at least some of the die stations including punch means for shaping a series of interconnecting discs in an elongate scroll metal strip (58, col. 2, lines 64-65) wherein the center-to-center spacing between the geometric centers of adjacent discs in the strip being variable from the fixed center-to-center spacing between the centers of each pair of the adjacent die stations (col. 2, lines 64-71);

5) means for maintaining accurate progression of the discs along the longitudinal axis through the die stations despite variations in the center-to-center spacing in the geometric centers wherein the maintaining means including means for enabling changes to the center-to-center spacing along the longitudinal axis between the geometric centers of adjacent discs (col. 2, line 69);

6) the enabling means comprising slot punch means for forming a plurality of elongate slots extending in a lateral direction transverse to the longitudinal axis (62, 64, 68, 80) and a plurality of narrow deformable bridges spaced apart in the lateral direction by the elongate slot and disposed at the opposite lateral ends of at least one of the elongate slots (72, 74) wherein the bridges being sufficiently narrow in the lateral direction to be deformable to effect changing of the center-to-center spacing along the longitudinal axis between the geometric centers of the adjacent discs and the narrow deformable bridges and the elongate slots

being aligned in the lateral direction and alternating such that an elongate slot is disposed between each pair of spaced apart bridges (col. 2, lines 68-72, Figure 6);

7) straddle pilot means physically disposed in the die assembly at a die station adjacent to the slot punch means for physically engaging four sides of a disc in the die station and for accurately locating the physically engaged disc in the die station while the elongate slots and narrow bridges are being formed by the slot punch means (60, 112, 114, col. 4, lines 71-73).

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 2, 9, 17, 19-31, and 52-54 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wesstrom et al. (US 3,388,582) in view of Applicant's Admitter Prior Art (hereafter AAPA).

Wesstrom discloses the invention substantially as claimed except for pilot cutting means and the additional die station comprising pilot pin means. AAPA teaches the use of pilot cutting means (21) and pilot pin means (23) as old and well known in the art for the purpose of properly orienting discs at die stations. It would have been obvious to one having ordinary skill in the art at the time the invention was made to employ the

pilot cutting means and the pilot pin means as taught by AAPA on the device of Wesstrom in order to ensure proper alignment of the workpiece for further operations. Regarding claims 19-21, Wesstrom fails to disclose the slot cutting means forming at least four of the bridges. Instead, Wesstrom shows slot cutting means forming two bridges. However, one of ordinary skill in the art would have been motivated to provide the slot cutting means to form more than two bridges (e.g., at least four bridges) depending on the thickness of the workpiece in order to ensure holding adjacent disc together during forming operations. Furthermore, it has been held that mere duplication of the essential working parts of a device involves only routine skill in the art. Regarding claims 52-53, it would have been an obvious matter of design choice to make the bridges in an arcuate shape since the applicant has stated in the specification, page 7, lines 10-12, that changing the shape of bridges to an arcuate shape is not critical to establishing novelty in the claimed subject matter and further, a change in shape is generally recognized as being within the level of ordinary skill in the art, absent any showing of unexpected results. Regarding claims 24-31, although Wesstrom fails to teach a specific thickness of the workpiece and a specific lateral width of the bridges, Wesstrom teaches the workpiece having a thickness and a lateral width of each bridge that permits deformation of the bridges. Thus, one of ordinary skill in the art would have been motivated to experiment to discover an optimum lateral width of each bridge (e.g., in the range between substantially .050 inch and .070 inch) for the workpiece having different thickness (e.g., approximately .025 inch) so as to achieve the specified function of Wesstrom. In addition, it has been held that where the general conditions of a claim

are disclosed in the prior art, discovering the optimum or workable value or ranges involves only routine skill in the art. Regarding claim 9, Wesstrom fails to disclose a plurality of pilot holes. AAPA teaches the use of pilot holes (22) to receive pilot pins (23) as old and well known in the art for the purpose of properly orienting discs at die stations. It would have been obvious to one having ordinary skill in the art at the time the invention was made to provide the pilot holes to receive the pilot pins as taught by AAPA on the device of Wesstrom in order to ensure proper alignment of the workpiece for further operations. Regarding claims 17, 22-23, and 54, Wesstrom fails to disclose die pilot means and strip pilot means. AAPA teaches the use of die pilot means (23) and strip pilot means (22) as old and well known in the art for the purpose of properly orienting discs at die stations. It would have been obvious to one having ordinary skill in the art at the time the invention was made to employ the die pilot means and the strip pilot means as taught by AAPA on the device of Wesstrom in order to ensure proper alignment of the workpiece for further operations.

### ***Conclusion***

6. This action is made Non-Final.
7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to S. Choi whose telephone number is 703-306-4523. The examiner can normally be reached on Monday thru Friday between 9am and 5pm. If attempts to reach the examiner are unsuccessful, the examiner's supervisor, Allan Shoap can be reached on 703-308-1082.

In lieu of mailing, it is encouraged that all formal responses be faxed to 703-872-

9306. Any inquiry of a general nature or relating to the status of this application should be directed to the receptionist whose telephone number is 703-308-1148.

sc  
March 29, 2004

*SC*  
STEPHEN CHOI  
PRIMARY EXAMINER

*ccy*  
Allan N. Shoap  
Supervisory Patent Examiner  
Group 3700

*E. Rollins-Cross*  
E. ROLLINS-CROSS  
GROUP DIRECTOR  
TECHNOLOGY CENTER 3700